

What is claimed is:

1. An isolated nucleic acid molecule comprising the nucleic acid sequence of SEQ ID NO:1.

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2. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid encodes the polypeptide of SEQ ID NO:2.

3. The isolated nucleic acid molecule of claim 1, further comprising a detectable label.

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4. The isolated nucleic acid molecule of claim 3, wherein the detectable label comprises an enzyme, a radioactive isotope, or a chemical which fluoresces.

5. The isolated nucleic acid molecule of claim 1, wherein the nucleic acid sequence is selected from the group consisting of RNA, synthetic RNA, genomic DNA, synthetic DNA and cDNA.

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6. An isolated nucleic acid molecule comprising a nucleic acid sequence that hybridizes to the nucleic acid sequence of SEQ ID NO:1.

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7. The isolated nucleic acid molecule of claim 6, where the nucleic acid sequence hybridizes under stringent conditions.

8. The isolated nucleic acid molecule of claim 7, wherein the hybridization occurs in 6X SSC at about 45° C, followed by at least one wash in 0.2X SSC, 0.1% SDS at about 50-65°C.

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9. An isolated nucleic acid molecule comprising a nucleic acid that encodes a polypeptide having the amino acid sequence of SEQ ID NO:2.

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10. The nucleic acid molecule of claim 9, where, as a result of the degeneracy of the genetic code, the nucleic acid differs from the nucleic acid of SEQ ID NO:1.

11. An isolated nucleic acid molecule comprising a nucleic acid that is at least 65% identical to the nucleic acid of SEQ ID NO:1.

5 12. The isolated nucleic acid molecule of claim 12, wherein the nucleic acid acid is at least 75% identical to the nucleic acid of SEQ ID NO:1.

13. The isolated nucleic acid molecule of claim 12, wherein the nucleic acid acid is at least 85% identical to the nucleic acid of SEQ ID NO:1.

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14. The isolated nucleic acid molecule of claim 12, wherein the nucleic acid acid is at least 95% identical to the nucleic acid of SEQ ID NO:1.

15. A recombinant polypeptide comprising the amino acid sequence of SEQ ID NO:2.

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16. The recombinant polypeptide of claim 15 further comprising a detectable label.

17. The recombinant polypeptide of claim 16, wherein the detectable label comprises an enzyme, a radio active isotope, or a chemical which fluoresces.

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18. A recombinant polypeptide comprising an amino acid sequence that is at least 65% identical to the sequence of SEQ ID NO:2 and which retains the function of the polypeptide of SEQ ID NO:2.

25 19. The recombinant polypeptide of claim 18, wherein the amino acid sequence is at least 75% identical to the sequence of SEQ ID NO:2.

20. The recombinant polypeptide of claim 18, wherein the amino acid sequence is at least 85% identical to the sequence of SEQ ID NO:2.

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21. The recombinant polypeptide of claim 18, wherein the amino acid sequence is at least 95% identical to the sequence of SEQ ID NO:2.
- 5 22. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the recombinant polypeptide of claim 18.
23. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the recombinant polypeptide of claim 19.
- 10 24. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the recombinant polypeptide of claim 20.
25. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the recombinant polypeptide of claim 21.
- 15 26. An antibody specific for the recombinant polypeptide of claim 15.
27. The antibody of claim 26, wherein the antibody is selected from the group consisting of a monoclonal antibody, a polyclonal antibody, and a chimeric antibody.
- 20 28. The antibody of claim 26, further comprising a detectable label.
29. The antibody of claim 28, wherein a detectable label comprises an enzyme, a radioactive isotope, a chemical which fluoresces, or an antigenic peptide tag
- 25 recognizable by antibodies.
30. An expression vector, the expression vector comprising the isolated nucleic acid molecule of claim 1 operatively associated with an expression control element.

31. The expression vector of claim 30, wherein the expression control element is selected from the group consisting of a constitutive regulatory sequence, a cell-specific regulatory sequence, and an inducible regulatory sequence.

32. The expression vector of claim 30, wherein the expression control element is a promoter comprising an immediate early promoter of hCMV, an early promoter of SV40, an early promoter of adenovirus, an early promoter of vaccinia, an early promoter of polyoma, a late promoter of SV40, a late promoter of adenovirus, a late promoter of vaccinia, a late promoter of polyoma, a *lac* system, a *trp* system, a *TAC* system, a *TRC* system, a major operator and promoter region of phage lambda, a control region of fd coat protein, 3-phosphoglycerate kinase promoter, acid phosphatase promoter, or a promoter of yeast  $\alpha$  mating factor.

33. A host cell transfected with the expression vector of claim 30.

34. The host cell of claim 33, wherein the host cell comprises a prokaryotic cell or eukaryotic cell.

35. The host cell of claim 34, wherein the host cell comprises *E. coli*, *Pseudomonas*, *Bacillus*, *Streptomyces*, yeast, CHO, R1.1, B-W, L-M, COS1, COS7, BSC1, BSC40, BMT10 or Sf9 cells.

36. An expression vector, the expression vector comprising the isolated nucleic acid molecule of claim 6 operatively associated with an expression control element.

37. A host cell transfected with the expression vector of claim 36.

38. An expression vector, the expression vector comprising the isolated nucleic acid molecule of claim 11 operatively associated with an expression control element.

39. A host cell transfected with the expression vector of claim 38.

40. An isolated nucleic acid molecule comprising antisense RNA complementary to a nucleic acid selected from the group consisting of

- a) the nucleic acid of SEQ ID NO:1;
- b) a nucleic acid that encodes the amino acid of SEQ ID NO:2.

41. A transgenic non-human animal, the animal having a genome comprising a transgene which comprises isolated nucleic acid of SEQ ID NO:1.

42. A method for producing the recombinant polypeptide of claim 15, the method comprising the steps of:

- a) culturing a host cell of claim 19 under conditions that provide for expression of the recombinant polypeptide; and
- b) recovering the recombinant polypeptide.

43. A method of detecting a protein, the method comprising the steps of

- a) contacting the protein with an antibody according to claim 26; and
- b) assessing the interaction between the antibody and the protein.

44. A method for identifying an agonist of SEQ ID NO:2, the method comprising the steps of:

- a) contacting a potential agonist with a cell expressing SEQ ID NO:2; and
- b) determining whether in the presence of the potential agonist the signaling activity of SEQ ID NO:2 is increased relative to the activity of SEQ ID NO:2 in the absence of the potential agonist.

45. A method for identifying an inverse agonist of SEQ ID NO:2, the method comprising the steps of:

- a) contacting a potential inverse agonist with a cell expressing SEQ ID NO:2; and
- b) determining whether in the presence of the potential inverse agonist the activity of SEQ ID NO:2 is decreased relative to the activity of SEQ ID NO:2 in

the absence of the potential inverse agonist, and is decreased in the presence of an endogenous ligand or agonist.

46. A method for identifying an antagonist of SEQ ID NO:2, the method comprising the  
5 steps of

- a) contacting a potential antagonist with a cell expressing SEQ ID NO:2; and
- b) determining whether in the presence of the potential antagonist the signaling activity of SEQ ID NO:2 is decreased relative to the activity of SEQ ID NO:2 in  
10 the presence of an endogenous ligand or agonist.